

**Amendments to the Claims:**

Please amend claims 27 and 40 and cancel claim 39. This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1-26 (canceled)

27 (currently amended) A method for detecting translation of a ~~polynucleotide~~  
an mRNA comprising the steps of:

a) providing a substrate for use in desorption spectrometry, wherein the substrate  
comprises a surface and an adsorbent attached to the surface;

b) providing a ~~polynucleotide~~ an mRNA encoding a polypeptide and reagents for  
in vitro translation of the ~~polynucleotide~~ mRNA;

c) translating the ~~polynucleotide~~ mRNA *in situ* on the ~~adsorbent~~ substrate,  
whereby the polypeptide is produced and is ~~deeked~~ bound through the adsorbent to the substrate;

d) exposing the substrate to an eluant to wash off unbound material and to allow  
retention of the polypeptide by the adsorbent; and

e) detecting retained polypeptide by desorption spectrometry;

whereby detection of the polypeptide provides detection of translation of the  
~~polynucleotide~~ mRNA.

28-35 (canceled)

36 (previously presented): The method of claim 27 wherein the adsorbent  
specifically binds the polypeptide.

37 (previously presented): The method of claim 36 wherein the adsorbent  
comprises an antibody.

1                   38 (previously presented): The method of claim 27 wherein the adsorbent is a  
2 hydrophilic interaction adsorbent, a hydrophobic interaction adsorbent, a metal chelate  
3 adsorbent, an anionic adsorbent or a cationic adsorbent.

1                   39 (canceled).

1                   40 (currently amended): The method of claim ~~[[39]]~~ 27 wherein step (b) further  
2 comprises providing reagents for in vitro transcription of the mRNA.

1                   41 (previously presented): The method of claim 27 wherein the polynucleotide is  
2 comprised in a genetic package.

1                   42 (previously presented): The method of claim 27 wherein the genetic package  
2 is a bacteriophage.

1                   43 (previously presented): The method of claim 27 wherein step (c) comprises  
2 creating a well over the substrate with the adsorbent at a bottom of the well and placing the  
3 reagents and the polynucleotide in the well.

1                   44 (previously presented): The method of any of claims 27 and 36-43 wherein  
2 the substrate is a mass spectrometry probe and desorption spectrometry comprises laser  
3 desorption mass spectrometry.